Age-Adjusted Death Rates

by

Paul A. Buescher

Introduction

Mortality or death rates are often used as measures of health status for a population. Population-based incidence or morbidity data are available in North Carolina in a few areas such as cancer and certain communicable diseases, but for many chronic diseases we know only how many people died from the disease and not how many are living with it. Given the importance of data from death certificates in measuring the health of populations, it is important that valid comparisons of death rates are made. Many factors affect the risk of death, including age, race, gender, occupation, education, and income. By far the strongest of these factors affecting the risk of death is age, with persons in the oldest age groups having a much higher risk of death. Populations often differ in age composition. A "young" population has a higher proportion of persons in the younger age groups, while an "old" population has a higher proportion in the older age groups and is expected to have higher crude (unadjusted) death rates than a "young" population. Therefore, it is often important to control for differences among the age distributions of populations when making comparisons among death rates to assess the relative risk of death. This *Statistical Primer* describes how age-adjusted death rates are calculated and discusses some related issues.

The methods for adjusting death rates for age that are shown here could also be applied to other characteristics of a population, such as income or gender, if it were considered desirable to adjust for such characteristics before comparing death rates. Also, disease incidence rates, birth rates, or other types of rates could be adjusted for age, or other factors, using the general approach presented here.